Memorandum

DATE April 14, 2017

TO Honorable Mayor and Members of the City Council

SUBJECT Overview of 911 Call Center Operations

On Wednesday, April 19, 2017, you will be provided with an overview of the 911 Call Center Operations by William (Bill) Finch, CIO/Director, Communication & Information Services and Interim Chief of Police David Pughes, Dallas Police Department. The briefing materials are attached for your review.

Please contact myself or Jody if you have any questions or need additional information.

Eric D. Campbell
Assistant City Manager

Jo M. (Jody) Puckett, P.E.
Interim Assistant City Manager

CC: T.C. Broadnax, City Manager
Larry Casto, City Attorney
Craig D. Kinton, City Auditor
Rosa A. Rios, City Secretary
Daniel F. Solis, Administrative Judge
Kimberly Bizo Tolbert, Chief of Staff to the City Manager
Theresa O'Donnell, Interim Chief of Economic Development & Neighborhood Services

Majed A. Al-Ghafr, Assistant City Manager
Mark McDaniel, Assistant City Manager
Jill A. Jordan, P.E., Assistant City Manager
Joey Zapata, Assistant City Manager
M. Elizabeth Reich, Chief Financial Officer
Alan E. Sims, Interim Chief of Community Services
Directors and Assistant Directors

"Dallas, The City That Works: Diverse, Vibrant and Progressive"
Purpose

• Describe the 911 call center operation
• Review call center performance
• Identify issues affecting performance
• Outline actions taken
• Next steps
911 Call Process

- Telephone Service
- Wireless Carrier Service
- Landline
- Mobile Device
- AT&T Local Provider

911 Call Taker

911 DPD Dispatcher

911 DFR Dispatcher
Dallas 911 Call Center

- Handle calls within Dallas city limits
- Receive reports from the public of crimes, disturbances, fires and medical or police emergencies
- Call Takers triage and/or route calls to DPD or DFR Dispatch

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Calls Received</th>
<th>Calls Dispatched</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/14</td>
<td>1,974,866</td>
<td>590,443</td>
</tr>
<tr>
<td>14/15</td>
<td>2,104,852</td>
<td>599,319</td>
</tr>
<tr>
<td>15/16</td>
<td>2,087,949</td>
<td>628,871</td>
</tr>
<tr>
<td>*16/17</td>
<td>1,028,222</td>
<td>293,618</td>
</tr>
</tbody>
</table>

*as of 3/31
911 Call Center Performance Standard

90% of all calls answered within 10 seconds during busiest hour

National Emergency Number Association

90% of all calls answered within 10 seconds

City of Dallas

Here are a few of the cities using same standard as **Dallas**:  
San Diego  
San Antonio  
Ft. Worth  
Cincinnati  
San Francisco
## Historical Service Levels

The City of Dallas goal is 90% of all calls answered within 10 seconds.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Calls Received</th>
<th>Average Time to Answer</th>
<th>Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/14</td>
<td>1,974,866</td>
<td>2 Seconds</td>
<td>95%</td>
</tr>
<tr>
<td>14/15</td>
<td>2,104,852</td>
<td>2 Seconds</td>
<td>94%</td>
</tr>
<tr>
<td>15/16</td>
<td>2,087,949</td>
<td>3 Seconds</td>
<td>92%</td>
</tr>
<tr>
<td>*16/17</td>
<td>1,028,222</td>
<td>22 Seconds</td>
<td>78%</td>
</tr>
</tbody>
</table>

*as of 3/31
## Recent Service Levels
### FY 2016 – April 14, 2017

<table>
<thead>
<tr>
<th>Month</th>
<th>Calls Received</th>
<th>Average Time to Answer</th>
<th>Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2016</td>
<td>184,926</td>
<td>6 Seconds</td>
<td>83%</td>
</tr>
<tr>
<td>November 2016</td>
<td>162,678</td>
<td>4 Seconds</td>
<td>89%</td>
</tr>
<tr>
<td>December 2016</td>
<td>172,387</td>
<td>12 Seconds</td>
<td>81%</td>
</tr>
<tr>
<td>January 2017</td>
<td>167,230</td>
<td>9 Seconds</td>
<td>80%</td>
</tr>
<tr>
<td>February 2017</td>
<td>161,228</td>
<td>44 Seconds</td>
<td>64%</td>
</tr>
<tr>
<td>March 2017</td>
<td>179,773</td>
<td>57 Seconds</td>
<td>72%</td>
</tr>
<tr>
<td>March 15 – April 14, 2017</td>
<td>167,740</td>
<td>9 Seconds</td>
<td>83%</td>
</tr>
</tbody>
</table>
Recent Issues

Technology
- Call Spikes
- Answering Capacity

Staffing
- Hiring
- Attrition
Recent 911 Call Center Issue: Problem Statement

- 911 call center inbound call queue experienced an abnormal number of calls ("spike") with no apparent correlation to an initiating event in the area.
- City’s 911 infrastructure tested, validated by service provider AT&T as part of incident investigations.
  - In all cases found to be operating as designed with no issues.
  - No pattern detected for when an incident would occur, or its duration.
- Significant number of abandoned call entries in the call queue were found not to have been made by the identified caller.
  - T-Mobile the only carrier associated with these calls, however this affected all carriers.
## Recent 911 Call Center Issue: Timeline

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2016</td>
<td>Unexplained call spike to 911 call center</td>
</tr>
<tr>
<td></td>
<td>No underlying issue or cause identified</td>
</tr>
<tr>
<td>December 2016</td>
<td>Unexplained call spike to 911 call center</td>
</tr>
<tr>
<td></td>
<td>T-Mobile Network Operations Center (NOC) contacts 911 call center to report T-Mobile is seeing many calls going into queue, unanswered</td>
</tr>
<tr>
<td></td>
<td>COD and AT&amp;T investigate these abandoned calls</td>
</tr>
<tr>
<td>December 2016 –</td>
<td>Incidents of unexplained call spikes continue intermittently but almost daily during this period</td>
</tr>
<tr>
<td>March 2017</td>
<td></td>
</tr>
</tbody>
</table>
# Recent 911 Call Center Issue: Timeline

<table>
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</table>
| February 2017| T-Mobile status calls changed from as needed to daily, due to call spike incidents continuing to occur on an almost daily basis  
PIO notification to the public and FCC notification made by DPD  
Memo to City Council about call issue                                    |
| March 2017   | Investigation and work to share information, identify root cause, and resolve the call spike issue continues between COD, T-Mobile, AT&T, other vendor resources during this period                                      |
| March 2017   | Significant unexplained spike in calls to 911 call center, 360+ call entries in queue  
PIO issues press release about call issue  
2nd memo to City Council about call issue  
Most significant unexplained spike in call to 911 call center, 410+ call entries in queue  
City Manager engages T-Mobile USA CEO and President |
Recent 911 Call Center Issue: Technology Actions 3/15-17/17

- Actions taken following onsite, joint working sessions at City Hall.
  - T-Mobile - Network changes made to mitigate the technology issue
  - City of Dallas / AT&T - Increased capacity and connections to shorten time and increase efficiency in delivering announcement to callers in queue during periods of high call volumes
- Results - No abnormal call spikes have been detected since these changes were made
911 Call Center Operations
(March 2017 Enhancements)
Fiscal Year Issues

Technology
- Call Spikes
- Answering Capacity

Staffing
- Hiring
- Attrition
Historic Staffing Levels

911 Communications Staffing

- FY 13-14 Service Level 95%
- FY 14-15 Service Level 93%
- FY 15-16 Service Level 92%
- FY 16-17 Service Level 77%

Authorized - Filled - Training - Gained - Lost - Net
## Recent Staffing Levels

<table>
<thead>
<tr>
<th>Month</th>
<th>Call Taker</th>
<th>Trainee</th>
<th>Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2016</td>
<td>65</td>
<td>5</td>
<td>83%</td>
</tr>
<tr>
<td>November 2016</td>
<td>63</td>
<td>6</td>
<td>89%</td>
</tr>
<tr>
<td>December 2016</td>
<td>62</td>
<td>8</td>
<td>81%</td>
</tr>
<tr>
<td>January 2017</td>
<td>62</td>
<td>11</td>
<td>80%</td>
</tr>
<tr>
<td>February 2017</td>
<td>61</td>
<td>11</td>
<td>64%</td>
</tr>
<tr>
<td>* March 2017</td>
<td>60</td>
<td>12</td>
<td>71%</td>
</tr>
</tbody>
</table>

* as of 3/31
Staffing Actions

Current

Cross-trained dispatchers
Existing Officers w/ 911 Training

1 month

39 sworn officers*
*Temporary Assignment

1-2 months

Hiring Fair –
871 Applicants
Existing 911 Call Taker Hiring Process

- Advertise
- Application Scoring, Evaluation
- Civil Service Test

Dallas Police Process

- Interview
- Background Investigation
- Polygraph Exam
- Psychological Test, Medical Drug Screening and Fingerprinting

Civil Service Process

1 month

On the Job Training
- Texas Commission on Law Enforcement Training (TCOLE)

911 Call Center

1-2 months

1 month

4 months
Hiring Process Improvements

- Continuous open Civil Service list
- Reduce re-apply period from 30 to 15 days
- Added 911 Call Taker processing to monthly Police on-site hiring
- Adding three civilian background “detectives” who only process civilian applicants
- Shortened background process for applicants
911 Call Taker Salary

911 Call Taker Trainee  $33,382

Completes Training

911 Call Taker  start - $36,053

9 weeks classroom
6 weeks live training

911 Call Taker  top - $57,415

* A salary study is being conducted by Human Resources
Moving Forward

• Staffing software to be utilized for scheduling and forecasting
• Maintain callback list of qualified non-communications employees who can assist, if needed
• Call Center environment enhancements
Future 911 Call Center Actions

• Assessment completed in 2015 recommended develop plan for move to Next Generation 911 technology (NG911)

• NG911 is an Internet Protocol (IP)-based system
  • digital information (e.g., voice, photos, videos, text messages) to flow seamlessly from the public, through the 911 network, and on to emergency responders
  • enhance the 911 system to create a faster, more flexible, resilient, and scalable system: that allows 911 to keep up with communication technology used by the public

• City to implement in phases
Technology Enhancements – Phase I

- Move from an analog phone trunk system to a digital T1 system
- Move from a largely hardware-driven system to a more software-driven, NG911-compatible telephony system
- Hardware refresh of 312 computers
- Phase I in FY2016-17 budget - $2.6M
  - In progress, completion planned for Oct/Nov 2017
Technology Enhancements – Phase II & III

- **Phase II** - Upgrade of backup 911 system to same level of technology deployed in Phase I
  - Estimated $7.2M with 12 month implementation once contracted
  - Functionally redundant, off-site backup of the 911 call center: Call handling, Computer-aided dispatch, 30 seats, Fiber connection to hosted NG911 backup service

- **Phase III** – Consider and evaluate options for connectivity to an ESINet
  - Timeframe and budget TBD
Questions?
Appendix
911 Call Center Management History

1995
911 and 311 Operations in Dallas Fire-Rescue

2002
Water Customer Service moved to DFR as a component of 311

2005
Dallas Police Department Management and Efficiency Study (Berkshire Study)

2007
Assessment of the Dallas Fire-Rescue Department (Berkshire Study)
Call Center Study (Jericho Consulting)
  • Recommendation to separate 911 & 311 call-taking functions into two centers

2008
Separation of Call Center functions
  • 911 (managed by DPD)
  • 311 & Water Utilities
March 2017 Call Volume and Service Level
Calls: 179,773
Service Level: 72.23%

3/17 – T-Mobile Improvement
911 Call Taker Minimum Qualifications

• Education
  • High School diploma or GED

• Experience
  • Two (2) years of customer service experience with one (1) year of heavy phone contact, data entry/form completion, complaint resolution

• Additional Requirements
  • Must pass intensive background investigation and drug test
  • Must obtain a Texas Commission on Law Enforcement (TCOLE) Certification during probationary period
    • No Felony or Misdemeanor A convictions
    • No Class B Misdemeanor convictions within the last ten (10) years